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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/073,491	02/11/2002	John Booth Bates	2001-0621	6019

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EXAMINER

LIANG, LEONARD S

ART UNIT	PAPER NUMBER
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2853

DATE MAILED: 10/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/073,491

Applicant(s)

BATES ET AL.

Examiner

Leonard S Liang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 11 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

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**DETAILED ACTION*****Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

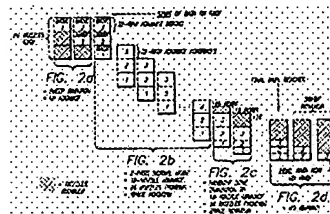
A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Cleveland (US Pat 5677716).

Cleveland discloses:

- {claim 1} A method of printing on a print medium with a printhead in an ink jet printer (column 1, lines 26-36); advancing the print medium in an advance direction a predetermined amount during a first advancing step; printing on the print medium with the printhead in an area corresponding to the predetermined amount during a first printing step; determining an end of printable area on the print medium in the advance direction; advancing the print medium in the advance direction a fixed minimum reliable move amount during a second advancing step, dependent upon the determining step, the minimum reliable move amount being less than the predetermined amount and sufficient to overcome advancement errors associated with operation of equipment for the advancing steps; and printing on the print medium with the printhead in an area corresponding to the minimum reliable move amount during a second printing step (figure 2a-2d; column 3, lines 10-42; column 14, lines 52-59; column 23, lines 30-65; column 24, lines 1-13)



- {claim 2} the first printing step is carried out using multiple pass printing, the multiple being an integer  $p$  (column 17, lines 53-64)
- {claims 3 and 12} calculating whether the following mathematical relationship is true  $(R_t - (R_m * p)) - R_1 \# 2 * R_p$  (figure 2a-2d; column 3, lines 10-42; column 14, lines 52-59; column 23, lines 30-65; column 24, lines 1-13; inherent)
- {claims 4 and 13} if the calculating step is a true boolean expression, then resetting the predetermined amount to a distance corresponding to  $((R_t - (R_m * p)) - R_1) / 2$  (figure 2a-2d; column 3, lines 10-42; column 14, lines 52-59; column 23, lines 30-65; column 24, lines 1-13; inherent)
- {claim 5} the step of repeating the first advancing step and the first printing step two remaining times (figure 2a-2d; column 3, lines 10-42; column 14, lines 52-59; column 17, lines 53-67; column 18, lines 1-37; column 23, lines 30-65; column 24, lines 1-13; inherent)
- {claim 6} the multiple pass printing corresponds to four pass printing (figure 2a-2d; column 3, lines 10-42; column 14, lines 52-59; column 17, lines 53-67; column 18, lines 1-37; column 23, lines 30-65; column 24, lines 1-13; inherent)
- {claim 7} the predetermined amount corresponds to an integer divisor of a height of the printhead (column 23, lines 30-67; column 24, lines 1-12)
- {claim 8} the first printing step is carried out using multiple pass printing, the multiple being an integer  $p$ , and wherein the printing is carried out such that a distance  $d$  near the end of printable area subject to print degradation is represented by a mathematical expression:  $d = (n - 1) * m$  (figure 2a-2d; column 3, lines 10-42; column 14, lines 52-59; column 17, lines 53-67; column 18, lines 1-37; column 23, lines 30-65; column 24, lines 1-13; inherent)
- {claim 9} the second printing step is carried out using multiple pass printing, and including the steps of repeating the second advancing step and the second printing step until a nozzle of the printhead closest to the end of printable area is immediately adjacent to the end of printable area, and then repeating the second printing step without repeating the second advancing step until the multiple

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- passes on the printable area are complete (figure 2a-2d; column 3, lines 10-42; column 14, lines 52-59; column 17, lines 53-67; column 18, lines 1-37; column 23, lines 30-65; column 24, lines 1-13; inherent)
- {claim 10} A method of printing on a print medium with a printhead in an ink jet printer; printing on the print medium using multiple pass printing, including the repetitive substeps of: advancing the print medium in an advance direction a predetermined amount during a first advancing step; and printing on the print medium with the printhead in an area corresponding to the predetermined amount during a first printing step; determining an end of printable area on the print medium in the advance direction; and printing on the print medium using multiple pass printing, dependent upon the determination of the end of printable area, including the repetitive substeps of: advancing the print medium in the advance direction a fixed minimum reliable move amount during a second advancing step, the minimum reliable move amount being less than the predetermined amount and sufficient to overcome advancement errors associated with operation of equipment for the advancing steps; and printing on the print medium with the printhead in an area corresponding to the minimum reliable move amount during a second printing step (figure 2a-2d; column 3, lines 10-42; column 14, lines 52-59; column 23, lines 30-65; column 24, lines 1-13)
- {claim 11} the multiple pass printing of the first printing step is carried out with a multiple represented by an integer p (column 17, lines 53-64)
- {claim 14} the second printing step using adjusted multiple pass printing includes the substeps of repeating the second advancing step and the second printing step until a nozzle of the printhead closest to the end of printable area is immediately adjacent to the end of printable area, and then repeating the second printing step without repeating the second advancing step until the multiple passes on the printable area are complete

### *Conclusion*

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The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Otsuki (US Pat 6250734) discloses a method and apparatus for printing with different sheet feeding amounts and accuracies.

Otsuki (US Pat 6357856) discloses printing with a vertical nozzle array head.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonard S Liang whose telephone number is (703) 305-4754. The examiner can normally be reached on 8:30-5 Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (703) 308-4896. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

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LSL

  
Stephen D. Meier  
Primary Examiner